CLAIMS

1. An isolated polynucleotide comprising:

(a) a nucleotide sequence encoding a polypeptide having chorismate mutase activity, wherein the amino acid sequence of the polypeptide and the amino acid sequence of SEQ ID NO:16 have at least 80% sequence identity based on the Clustal pairwise alignment method with default parameters of KTUPLE=1 GAP PENALTY=3, WINDOW=5 and DIAGONALS SAVED=5, or

(b) the complement of the nucleotide sequence, wherein the complement and the nucleotide sequence contain the same number of nucleotides and are 100% complementary.

2. The polynucleotide of Claim 1, wherein the amino acid sequence of the polypeptide and the amino acid sequence of SEQ ID NO:16 have at least 90% sequence identity based on the Clustal alignment method.

3. The polynucleotide of Claim 1, wherein the amino acid sequence of the polypeptide and the amino acid sequence of SEQ ID NO:16 have at least 95% sequence identity based on the Clustal alignment method.

4. The polynucleotide of Claim 1 wherein the polypeptide comprises the amino acid sequence of SEQ ID NO:16.

5. The polynucleotide of Claim 1, wherein the nucleotide sequence comprises the nucleotide sequence of SEQ ID NO:15.

6. A recombinant DNA construct comprising the polynucleotide of Claim 1 operably linked to at least one regulatory sequence.

7. A cell comprising the polynucleotide of Claim 1.

8. The cell of claim 7, wherein the cell is selected from the group consisting of a yeast cell, a bacterial cell and a plant cell.

9. A transgenic plant comprising the polynucleotide of Claim 1.

10. A virus comprising the polynucleotide of Claim 1.

11. A method for transforming a cell comprising introducing into a cell the polynucleotide of Claim 1.

12. A method for producing a transgenic plant comprising (a) transforming a plant cell with the polynucleotide of Claim 1 and (b) regenerating a plant from the transformed plant cell.

13. A vector comprising the polynucleotide of Claim 1.

14. A seed comprising the recombinant DNA construct of Claim 6.